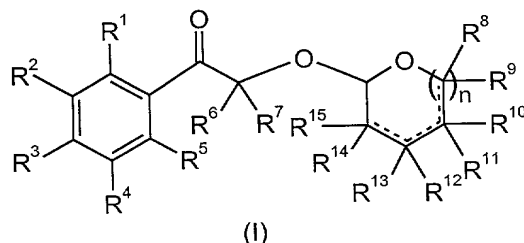


WHAT IS CLAIMED IS:

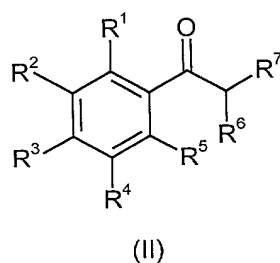
1. A fragrance precursor of formula I:



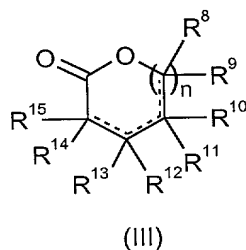
5

wherein the dotted lines indicating one or two optional double bonds in the cyclic acetal,

that forms a fragrant ketone of formula II:



- 10 and a fragrant lactone of formula III:



containing not more than 20 carbon atoms,

wherein

15  $R^1$  to  $R^5$  represent independently H,  $-NO_2$ , linear or branched  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkenyl,  $C_1$ - $C_6$ -alkynyl, or  $C_1$ - $C_4$ -alkoxy,

$R^1$  and  $R^2$ ,  $R^2$  and  $R^3$ ,  $R^3$  and  $R^4$ , and  $R^4$  and  $R^5$  may form

together one or two aliphatic or aromatic rings, these rings may optionally contain linear or branched C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkenyl, or C<sub>1</sub>-C<sub>4</sub>-alkynyl residues, and these rings and residues may comprise one or more oxygen atoms,

- 5 R<sup>6</sup> and R<sup>7</sup> are independently H, linear or branched C<sub>1</sub>-C<sub>6</sub>-alkyl-, C<sub>1</sub>-C<sub>6</sub>-alkenyl, or C<sub>1</sub>-C<sub>6</sub>-alkynyl, and R<sup>6</sup> or R<sup>7</sup> may form with either R<sup>1</sup> or R<sup>5</sup> a carbocyclic ring optionally substituted by an aliphatic residue,

n is either 0 or 1,

- 10 R<sup>8</sup> to R<sup>15</sup> are independently H, branched or linear C<sub>1</sub>-C<sub>15</sub>-alkyl, C<sub>1</sub>-C<sub>15</sub>-alkenyl, C<sub>1</sub>-C<sub>15</sub>-alkynyl, or C<sub>1</sub>-C<sub>4</sub>-alkoxy, they may form together one or more aliphatic or aromatic rings, these rings may optionally contain branched or linear C<sub>1</sub>-C<sub>10</sub>-alkyl, C<sub>1</sub>-C<sub>10</sub>-alkenyl, or C<sub>1</sub>-C<sub>10</sub>-alkynyl residues, and  
15 these rings and residues may comprise one or more oxygen atoms, or

- R<sup>8</sup> and R<sup>9</sup> together; R<sup>10</sup> and R<sup>11</sup> together; R<sup>12</sup> and R<sup>13</sup> together; or R<sup>14</sup> and R<sup>15</sup> together represent H, branched or linear C<sub>1</sub>-C<sub>15</sub>-alkyl, C<sub>1</sub>-C<sub>15</sub>-alkenyl, C<sub>1</sub>-C<sub>15</sub>-alkynyl or C<sub>1</sub>-C<sub>4</sub>-  
20 alkoxy when the ring carbon atom supporting these groups is unsaturated.

2. A fragrance precursor according to claim 1 wherein n is 0, one of the residues R<sup>11</sup> to R<sup>15</sup> is an aliphatic  
25 residue having 1 to 15 carbon atoms, and the other residues are H.

3. A fragrance precursor according to claim 1 wherein in formula I n is 0, R<sup>10</sup> is an aliphatic residue having 1 to  
30 15 carbon atoms and R<sup>11</sup> to R<sup>15</sup> are H.

4. A fragrance precursor according to claim 1 wherein in  
formula I n is 0, two or more of the residues R<sup>10</sup> to R<sup>15</sup>  
are aliphatic residues having 1 to 15 carbon atoms, and  
5 the other residues are H.

5. A fragrance precursor according to claim 1 wherein in  
formula I n is 0, and R<sup>10</sup> and R<sup>11</sup> are aliphatic residues  
having 1 to 10 carbon atoms.

10

6. A fragrance precursor according claim 1 wherein in  
formula I n is 0, and at least two of the residues R<sup>10</sup> to  
R<sup>15</sup> are residues having 1 to 15 carbon atoms and form  
together one or more carbocyclic ring(s), which may  
15 optionally be substituted with one or more aliphatic  
residue(s) having 1 to 10 carbon atoms.

7. A fragrance precursor according claim 1 wherein in  
formula I n is 0, and R<sup>10</sup> and R<sup>11</sup> are residues having 1 to  
20 15 carbon atoms and form together a ring which may be  
further substituted with one or more aliphatic residues  
having 1 to 10 carbon atoms.

8. A fragrance precursor according to claim 1 wherein in  
25 formula I n is 1, one or more of the residues R<sup>8</sup> to R<sup>15</sup> are  
an aliphatic residue having 1 to 15 carbon atoms, and the  
other residues are H.

9. A fragrance precursor according to claim 1 wherein in

formula I n is 1, R<sup>8</sup> is an aliphatic residue having 1 to 15 carbon atoms, and R<sup>9</sup> to R<sup>15</sup> are H.

10. A fragrance precursor according to claim 1 wherein in  
5 formula I n is 1, at least two of the residues R<sup>8</sup> to R<sup>15</sup> are aliphatic and have 1 to 15 carbon atoms, and the other residues are H.

10 11. A fragrance precursor according to claim 1 wherein in formula I n is 1, and at least two of the residue R<sup>8</sup> to R<sup>15</sup> are residues having 1 to 15 carbon atoms and form together one or more carbocyclic ring(s), which may optionally be substituted with one or more aliphatic residues having 1 to 10 carbon atoms.

15

12. A fragrance precursor according to claim 1 wherein in formula I at least one of the residues R<sup>6</sup> and R<sup>7</sup> is H.

20 13. A fragrance precursor according to claim 1 wherein in formula I the residues R<sup>6</sup> and R<sup>7</sup> are H.

14. A fragrance precursor according to claim 1 wherein in formula I the residues R<sup>6</sup> and R<sup>7</sup> are H, and R<sup>1</sup> to R<sup>5</sup> represent independently H, -NO<sub>2</sub>, linear or branched C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkenyl, C<sub>1</sub>-C<sub>6</sub>-alkynyl, or C<sub>1</sub>-C<sub>4</sub> alkoxy.  
25

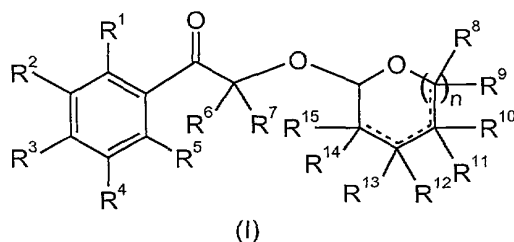
15. A fragrance precursor according to claim 1 wherein in formula I the fragrant ketone of formula II is selected from the group consisting of 1-phenyl-ethanone, 2,4-

dimethylphenyl-ethanone, 1-[4-(1,1-dimethylethyl)-2,6-dimethylphenyl]-ethanone, 1-(4-tert-butyl-3,5-dinitro-2,6-dimethyl)-ethanone, and 1-(4-methoxyphenyl)-ethanone.

16. A fragrance precursor according to claim 1 wherein in formula I  $R^1$  and  $R^2$ ,  $R^2$  and  $R^3$ ,  $R^3$  and  $R^4$ , and  $R^4$  and  $R^5$ , form together one or two aliphatic or aromatic rings which may optionally contain substituted or unsubstituted  $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -alkenyl, or  $C_1$ - $C_4$ -alkynyl residues and may comprise one or more oxygen atoms.

17. A fragrance precursor according to claim 1 wherein the fragrant ketone of formula II is selected from the group consisting of 1-(2-naphthalenyl)-ethanone, 4-acetyl-6-tert-butyl-1,1-dimethyl-indan, 1-(5,6,7,8-tetrahydro-3',5',5',6',8',8'-hexamethyl-2-naphthalenyl)-ethanone, 1-(5,6,7,8-tetrahydro-3',5',5',8',8'-pentamethyl-2-naphthalenyl)-ethanone, 1-(5,6,7,8-tetrahydro-3'-ethyl-5',5',8',8'-tetramethyl-2-naphthalenyl)-ethanone, 1-(2,3-dihydro-1',1',2',3',3',6'-hexamethyl-1H-inden-5-yl)-ethanone, 1-[2,3-dihydro-1',1',2',6'-tetramethyl-3-(1-methylethyl)-1H-inden-5-yl]-ethanone, 5-acetyl-1,1,2,3,3-pentamethyl-indane, and 1-(5,6,7,8-tetrahydro-2-naphthalenyl)-ethanone.

18. A compound of formula I:



the dotted lines indicating one or two double bonds in the ring of the cyclic acetal,

wherein

R<sup>1</sup> to R<sup>5</sup> represent independently H, -NO<sub>2</sub>, linear or  
5 branched C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkenyl, C<sub>1</sub>-C<sub>6</sub>-alkynyl, or C<sub>1</sub>-C<sub>4</sub>-alkoxy,

R<sup>1</sup> and R<sup>2</sup>, R<sup>2</sup> and R<sup>3</sup>, R<sup>3</sup> and R<sup>4</sup>, and R<sup>4</sup> and R<sup>5</sup> may form  
together one or two aliphatic or aromatic rings, these  
rings may optionally contain substituted or unsubstituted  
10 C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkenyl, or C<sub>1</sub>-C<sub>4</sub>-alkynyl residues, and  
may comprise one or more oxygen atoms,

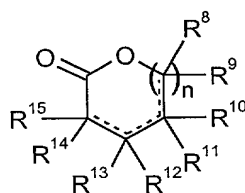
R<sup>6</sup> and R<sup>7</sup> are independently H, linear or branched C<sub>1</sub>-C<sub>6</sub>-  
alkyl, C<sub>1</sub>-C<sub>6</sub>-alkenyl, C<sub>1</sub>-C<sub>6</sub>-alkynyl, and R<sup>6</sup> or R<sup>7</sup> may form  
with either R<sup>1</sup> or R<sup>5</sup> a substituted or unsubstituted  
15 carbocyclic ring,

n is either 0 or 1,

R<sup>8</sup> to R<sup>15</sup> are independently H, branched or linear C<sub>1</sub>-C<sub>15</sub>-  
alkyl, C<sub>1</sub>-C<sub>15</sub>-alkenyl, C<sub>1</sub>-C<sub>15</sub>-alkynyl, or C<sub>1</sub>-C<sub>4</sub>-alkoxy, they  
may form together one or more aliphatic or aromatic  
20 rings, these rings may optionally contain branched or  
linear C<sub>1</sub>-C<sub>10</sub>-alkyl, C<sub>1</sub>-C<sub>10</sub>-alkenyl, or C<sub>1</sub>-C<sub>10</sub>-alkynyl  
residues, and the above rings and residues may comprise  
one or more oxygen atoms,

and

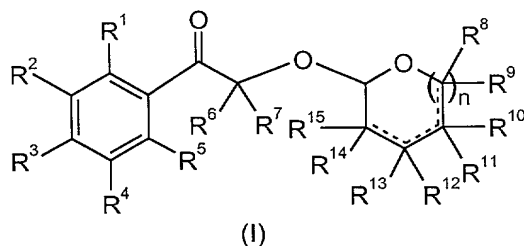
25 a lactone of formula III:



(III)

which contains not more than 20 carbon atoms.

19. A compound of formula I:



5 wherein

the ring of the acetal is saturated,

$R^1$  to  $R^5$  represent independently H,  $-\text{NO}_2$ , linear or branched  $\text{C}_1\text{-C}_6$ -alkyl,  $\text{C}_1\text{-C}_6$ -alkenyl,  $\text{C}_1\text{-C}_6$ -alkynyl, or  $\text{C}_1\text{-C}_4$ -alkoxy,

10  $R^1$  and  $R^2$ ,  $R^2$  and  $R^3$ ,  $R^3$  and  $R^4$ , and  $R^4$  and  $R^5$  may form together one or two aliphatic or aromatic rings, these rings may optionally contain substituted or unsubstituted  $\text{C}_1\text{-C}_4$ -alkyl,  $\text{C}_1\text{-C}_4$ -alkenyl, or  $\text{C}_1\text{-C}_4$ -alkynyl residues, and may comprise one or more oxygen atoms,

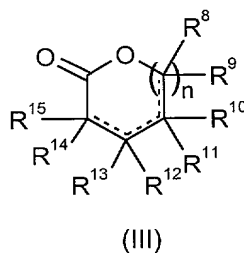
15  $R^6$  and  $R^7$  are independently H, linear or branched  $\text{C}_1\text{-C}_6$ -alkyl,  $\text{C}_1\text{-C}_6$ -alkenyl, or  $\text{C}_1\text{-C}_6$ -alkynyl, and  $R^6$  or  $R^7$  may form with either  $R^1$  or  $R^5$  a substituted or unsubstituted carbocyclic ring,

$n$  is 0,

20  $R^8$  to  $R^{15}$  are independently H, branched or linear  $\text{C}_1\text{-C}_{15}$ -alkyl,  $\text{C}_1\text{-C}_{15}$ -alkenyl,  $\text{C}_1\text{-C}_{15}$ -alkynyl, or  $\text{C}_1\text{-C}_4$ -alkoxy, they may form together one aliphatic or aromatic ring, and the ring may optionally contain branched or linear  $\text{C}_1\text{-C}_{10}$ -alkyl,  $\text{C}_1\text{-C}_{10}$ -alkenyl, or  $\text{C}_1\text{-C}_{10}$ -alkynyl residues, and the  
25 above rings and residues may comprise one or more oxygen atoms,

and

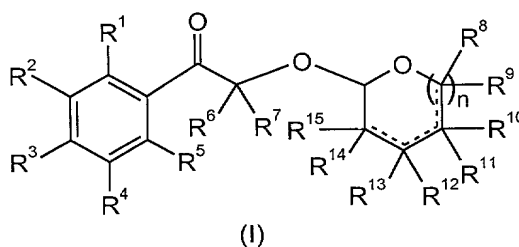
a lactone of formula III:



which contains not more than 20 carbon atoms.

5

20. A compound of formula I:



wherein

the ring of the acetal is saturated,

10 R<sup>1</sup> to R<sup>5</sup> represent independently H, -NO<sub>2</sub>, linear or branched C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkenyl, C<sub>1</sub>-C<sub>6</sub>-alkynyl, or C<sub>1</sub>-C<sub>4</sub>-alkoxy,

R<sup>1</sup> and R<sup>2</sup>, R<sup>2</sup> and R<sup>3</sup>, R<sup>3</sup> and R<sup>4</sup>, and R<sup>4</sup> and R<sup>5</sup> may form together one or two aliphatic or aromatic rings, these  
15 rings may optionally contain substituted or unsubstituted C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkenyl, or C<sub>1</sub>-C<sub>4</sub>-alkynyl residues, and may comprise one or more oxygen atoms,

R<sup>6</sup> and R<sup>7</sup> are independently H, linear or branched C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkenyl, or C<sub>1</sub>-C<sub>6</sub>-alkynyl, and R<sup>6</sup> or R<sup>7</sup> may  
20 form with either R<sup>1</sup> or R<sup>5</sup> a substituted or unsubstituted



carbocyclic ring,

n is 1,

$R^8$  to  $R^{15}$  are independently H, branched or linear  $C_1$ - $C_{15}$ -alkyl,  $C_1$ - $C_{15}$ -alkynyl, or  $C_1$ - $C_4$ -alkoxy, they may form together one or more aliphatic or aromatic rings, these rings may optionally contain branched or linear  $C_1$ - $C_{10}$ -alkyl,  $C_1$ - $C_{10}$ -alkenyl, or  $C_1$ - $C_{10}$ -alkynyl residues, and the above rings and residues may comprise one or more oxygen atoms,

with the proviso that compounds

wherein

all of  $R^8$  to  $R^{15}$  are H,

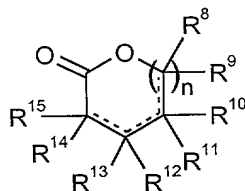
or

all of  $R^{10}$  to  $R^{15}$  are H and either  $R^8$  is  $C_6$  and  $R^9$  is H or  $R^9$  is  $C_6$  and  $R^8$  is H

are excluded,

and

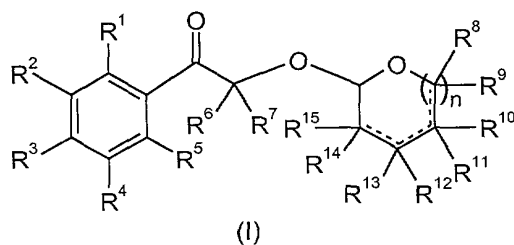
a lactone of formula III:



(III)

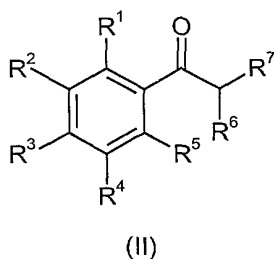
which contains not more than 20 carbon atoms.

21. A perfumed product comprising a fragrance precursor of formula I:



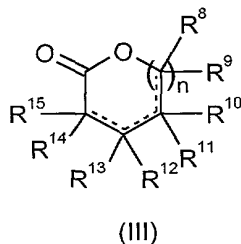
the dotted lines indicating one or two optional double bonds in the cyclic acetal,

that forms fragrant ketone of formula II:



5

and a fragrant lactone of formula III:



containing not more than 20 carbon atoms,

wherein

- 10  $R^1$  to  $R^5$  represent independently H,  $-NO_2$ , linear or branched  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkenyl,  $C_1$ - $C_6$ -alkynyl, or  $C_1$ - $C_4$ -alkoxy,

$R^1$  and  $R^2$ ,  $R^2$  and  $R^3$ ,  $R^3$  and  $R^4$ , and  $R^4$  and  $R^5$  may form together one or two aliphatic or aromatic rings, these  
 15 rings may optionally contain linear or branched  $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -alkenyl, or  $C_1$ - $C_4$ -alkynyl residues, and these

09883409 061801  
rings and residues may comprise one or more oxygen atoms,

R<sup>6</sup> and R<sup>7</sup> are independently H, linear or branched C<sub>1</sub>-C<sub>6</sub>-alkyl-, C<sub>1</sub>-C<sub>6</sub>-alkenyl, or C<sub>1</sub>-C<sub>6</sub>-alkynyl, and R<sup>6</sup> or R<sup>7</sup> may form with either R<sup>1</sup> or R<sup>5</sup> a carbocyclic ring optionally substituted by an aliphatic residue,

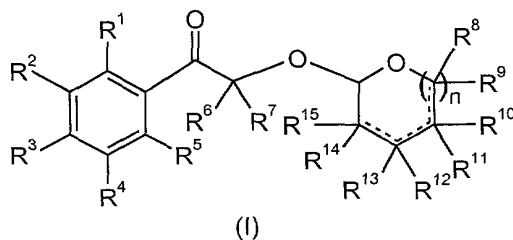
n is either 0 or 1,

R<sup>8</sup> to R<sup>15</sup> are independently H, branched or linear C<sub>1</sub>-C<sub>15</sub>-alkyl, C<sub>1</sub>-C<sub>15</sub>-alkenyl, C<sub>1</sub>-C<sub>15</sub>-alkynyl, or C<sub>1</sub>-C<sub>4</sub>-alkoxy, they may form together one or more aliphatic or aromatic rings, these rings may optionally contain branched or linear C<sub>1</sub>-C<sub>10</sub>-alkyl, C<sub>1</sub>-C<sub>10</sub>-alkenyl, or C<sub>1</sub>-C<sub>10</sub>-alkynyl residues, and these rings and residues may comprise one or more oxygen atoms.

22. A perfumed product according to claim 21 wherein the perfumed product is selected from the group consisting of laundry compositions, cleaning products, body care products, and personal care products.

23. A process for providing a fragrance to a substrate comprising:

(a) treating a substrate with a perfumed product comprising a fragrance precursor of formula I:



the dotted lines indicating one or two optional double

bonds in the cyclic acetal,

wherein

R<sup>1</sup> to R<sup>5</sup> represent independently H, -NO<sub>2</sub>, linear or  
branched C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkenyl, C<sub>1</sub>-C<sub>6</sub>-alkynyl, or C<sub>1</sub>-C<sub>4</sub>-  
5 alkoxy,

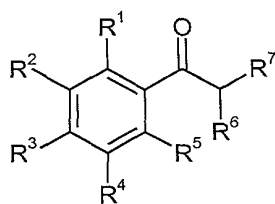
R<sup>1</sup> and R<sup>2</sup>, R<sup>2</sup> and R<sup>3</sup>, R<sup>3</sup> and R<sup>4</sup>, and R<sup>4</sup> and R<sup>5</sup> may form  
together one or two aliphatic or aromatic rings, these  
rings may optionally contain linear or branched C<sub>1</sub>-C<sub>4</sub>-  
alkyl, C<sub>1</sub>-C<sub>4</sub>-alkenyl, or C<sub>1</sub>-C<sub>4</sub>-alkynyl residues, and these  
10 rings and residues may comprise one or more oxygen atoms,

R<sup>6</sup> and R<sup>7</sup> are independently H, linear or branched C<sub>1</sub>-C<sub>6</sub>-  
alkyl-, C<sub>1</sub>-C<sub>6</sub>-alkenyl, or C<sub>1</sub>-C<sub>6</sub>-alkynyl, and R<sup>6</sup> or R<sup>7</sup> may  
form with either R<sup>1</sup> or R<sup>5</sup> a carbocyclic ring optionally  
substituted by an aliphatic residue,

15 n is either 0 or 1,

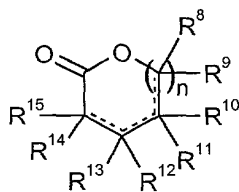
R<sup>8</sup> to R<sup>15</sup> are independently H, branched or linear C<sub>1</sub>-C<sub>15</sub>-  
alkyl, C<sub>1</sub>-C<sub>15</sub>-alkenyl, C<sub>1</sub>-C<sub>15</sub>-alkynyl, or C<sub>1</sub>-C<sub>4</sub>-alkoxy, they  
may form together one or more aliphatic or aromatic rings,  
these rings may optionally contain branched or linear C<sub>1</sub>-  
20 C<sub>10</sub>-alkyl, C<sub>1</sub>-C<sub>10</sub>-alkenyl, or C<sub>1</sub>-C<sub>10</sub>-alkynyl residues, and  
these rings and residues may comprise one or more oxygen  
atoms; and

(b) allowing the compound of formula I to be cleaved to  
form a fragrant ketone of formula II:



(II)

and a fragrant lactone of formula III:



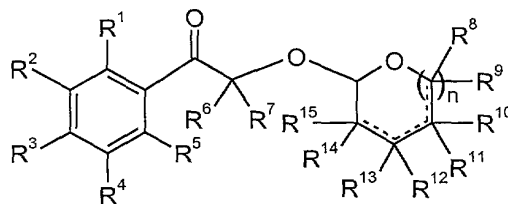
(III)

containing not more than 20 carbon atoms.

24. A process according to claim 23 wherein the compound  
5 of formula I is cleaved by exposure to light.

25. A process for providing a perfumed product  
comprising:

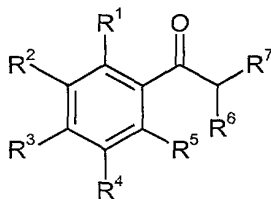
(a) forming a mixture by combining a base material  
10 with a compound according to formula I:



(I)

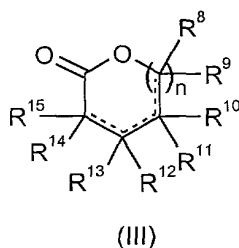
the dotted lines indicating one or two optional double  
bonds in the cyclic acetal,

that forms fragrant ketone of formula II:



(II)

and a fragrant lactone of formula III:



containing not more than 20 carbon atoms,

wherein

5  $R^1$  to  $R^5$  represent independently H,  $-NO_2$ , linear or branched  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkenyl,  $C_1$ - $C_6$ -alkynyl, or  $C_1$ - $C_4$ -alkoxy,

$R^1$  and  $R^2$ ,  $R^2$  and  $R^3$ ,  $R^3$  and  $R^4$ , and  $R^4$  and  $R^5$  may form together one or two aliphatic or aromatic rings, these  
10 rings may optionally contain linear or branched  $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -alkenyl, or  $C_1$ - $C_4$ -alkynyl residues, and these rings and residues may comprise one or more oxygen atoms,

$R^6$  and  $R^7$  are independently H, linear or branched  $C_1$ - $C_6$ -alkyl-,  $C_1$ - $C_6$ -alkenyl, or  $C_1$ - $C_6$ -alkynyl, and  $R^6$  or  $R^7$  may  
15 form with either  $R^1$  or  $R^5$  a carbocyclic ring optionally substituted by an aliphatic residue,

$n$  is either 0 or 1,

$R^8$  to  $R^{15}$  are independently H, branched or linear  $C_1$ - $C_{15}$ -alkyl,  $C_1$ - $C_{15}$ -alkenyl,  $C_1$ - $C_{15}$ -alkynyl, or  $C_1$ - $C_4$ -alkoxy, they  
20 may form together one or more aliphatic or aromatic rings, these rings may optionally contain branched or linear  $C_1$ - $C_{10}$ -alkyl,  $C_1$ - $C_{10}$ -alkenyl, or  $C_1$ - $C_{10}$ -alkynyl residues, and these rings and residues may comprise one or more oxygen atoms; and

25 (b) forming a perfumed product from the mixture.

26. A process according to claim 25 wherein the perfumed  
product is selected from the group consisting of laundry  
compositions, cleaning products, body care products, and  
5 personal care products.

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